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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
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Sheet 1 of 2

Complete if Known	
Application Number	10/677,697
Filing Date	October 2, 2003
First Named Inventor	Kenneth L. Riley, et al.
Art Unit	1764
Examiner Name	Prem C. Singh
Attorney Docket Number	GJH-0326
Family Number	P1997J067K-US2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, columns, lines, where relevant passages or relevant figures appear
PS		US- 2,873,257	02/10/1959	E. A. Hunter, et al.	
		US- 2,946,738	07/26/1960	L. E. Gardner, et al.	
		US- 3,198,753	08/03/1965	F. Traina	
		US- 3,280,040	10/18/1966	J. Jaffe	
		US- 3,408,309	10/29/1968	A. W. Gessner	
		US- 3,520,796	07/14/1970	H. C. Murphy, Jr., et al.	
		US- 3,959,179	05/25/1976	Mikovsky, et al.	
		US- 4,013,545	03/22/1977	Hilfman	
		US- 4,113,605	09/12/1978	Mickelson	
		US- 4,153,578	05/08/1979	De Thomas, et al.	
		US- 4,181,602	01/01/1980	Quick, et al.	
		US- 4,392,945	07/12/1983	Howard, et al.	
		US- 4,491,639	01/01/1985	Happel, et al.	
		US- 4,720,477	01/19/1988	Hettinger, Jr.	
		US- 4,721,558	01/16/1988	Jacobson, et al.	
		US- 4,748,142	05/31/1988	Chianelli, et al.	
		US- 4,820,677	04/11/1989	Jacobson, et al.	
		US- 4,875,992	10/24/1989	Hamner	
		US- 5,244,858	09/14/1993	Usui, et al.	
		US- 5,252,199	10/12/1993	Singhal, et al.	
		US- 5,292,428	03/08/1994	Harrison, et al.	
		US- 5,565,091	10/15/1996	Iino, et al.	
		US- 5,968,346	10/19/1999	Jung, et al.	
		US- 6,002,919	12/14/1999	Posti	
		US- 6,071,402	06/06/2000	Danot, et al.	
		US- 6,083,378	07/04/2000	Gildert, et al.	
		US- 6,231,750	05/15/2001	Kasztelan, et al.	
		US- 6,231,753 B1	05/15/2001	McKnight, et al.	
		US- 6,256,695 B1	07/03/2001	Williams	
V		US- 2001/0000006 A1	03/15/2001	Kasztelan, et al.	
		US- 2003/0102254 A1	06/05/2003	Eijsbouts, et al.	
		US-			
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Examiner Signature	/Prem Singh/	Date Considered	12/19/2006

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Sheet 2 of 2

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Art Unit	1764
Examiner Name	Prem C. Singh
Attorney Docket Number	GJH-0326
Family Number	P1997J067K-US2

FOREIGN PATENT DOCUMENTS

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PS		EP 0183353 B1	27.09.85	Chianelli, R. R., et al.		
		EP 0244106 B1	09.04.87	Ward, J. W.		
		EP 0277718 A2	15.01.88	Vauk, D. A., et al.		
		EP 0379433 A1	18.01.90	Mazzocchia, C., et al.		
		EP 0419266 A1	10.09.90	Sawyer, W. H., et al.		
		EP 0469675 B1	25.07.1991	Heinerman, J. J. L., et al.		
		EP 0590672 A1	30.09.93	Takito, T., et al.		
		EP0590673 A1	30.09.93	Takito, T., et al.		
		EP 0635555 A2	20.07.94	Tashiro, N., et al.		
		EP 0685260 A2	31.05.95	Kurimoto, I., et al.		
		EP 0849351 B1	12.12.1997	Cody, I. A., et al.		
		EP 0900929 B1	04.09.1998	Gourot, B		
		GB 1,282,950	2 Feb. 1970	P. Courty, et al.		
		GB 1,458,887	5 July 1974	Japan Synthetic Rubber Co		
		DE 3029266 C2	1.8.80	Becker, K., et al.		
		RU 2030444 C1	20.07.92	Mornhoba, A.H., et al.		
		PCT WO 00/41810	20 July 2000	Eijsbouts, S., et al.		
		PCT WO 00/42119	20 July 2000	Demmin, R. A., et al.		
		PCT WO 00/42125	20 July 2000	Riley, K. L., et al.		
V		PCT WO 00/42131	20 July 2000	Hantzer, S. S., et al.		
		PCT WO 99/41327	19 August 1999	Cody, I. A., et al.		

Examiner Signature	/Prem Singh/	Date Considered	12/19/2006

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Attorney Docket Number	GJH-0326
Family Number	P1997J057K-US2

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PS		US- 2,690,433	07/22/1952	W. F. Engel, et al.	
		US- 3,678,124	07/18/1972	Stepanov, et al.	
		US- 3,850,746	11/26/1974	Robson	
		US- 3,861,005	01/21/1975	Steinmetz, et al.	
		US- 3,901,828	08/26/1975	Mai, et al.	
		US- 3,925,197	12/09/1975	Van Klinken, et al.	
		US- 4,014,925	03/29/1977	Ferlazzo, et al.	
		US- 4,113,603	09/12/1978	Bauer	
		US- 4,388,223	06/14/1983	Ferlazzo, et al.	
		US- 4,596,785	06/24/1986	Toulhoat, et al.	
		US- 4,701,381	10/20/1987	Jack	
		US- 4,808,563	02/28/1989	Velenyi	
		US- 4,824,821	04/25/1989	Lopez, et al.	
		US- 4,857,496	08/15/1989	Lopez, et al.	
		US- 4,902,404	02/20/1990	Ho	
		US- 5,112,472	05/12/1992	Gosselink, et al.	
		US- 5,122,258	06/16/1992	Eadie, et al.	
		US- 5,320,741	06/14/1994	Johnson, et al.	
		US- 5,446,004	08/29/1995	Tenten, et al.	
		US- 5,643,441	07/01/1997	Timken, et al.	
		US- 5,851,382	12/22/1998	Sudhakar	
		US- 5,865,988	02/02/1999	Collins, et al.	
		US- 5,993,643	11/30/1999	Chang, et al.	
		US- 6,156,694	12/05/2000	Harper	
		US- 6,156,695	12/05/2000	Soled, et al.	
		US- 6,162,351	12/19/2000	Sudhakar, et al.	

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PS		EP 0203228 A1	29.07.1985	Washecheck. D. M., et al.		
		EP 0215989 A1	27.09.1985	Chianelli, R. R., et al.		
		PCT WO 00/41881	20 July 2000	Eijsbouts, S., et al.		
		PCT WO 99/03578	28 January 1999	Soled, S. L., et al.		
		CN 1218088	02 June 1999	He, et al.	Abstract	
		CZ 158758A	15 July 1975	R. Zidek, et al.	Abstract	

Examiner Signature	/Prem Singh/	Date Considered	12/19/2006

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
PS	CA	Levin, Doron, et al., "Crystal Structure of an Ammonium Nickel Molybdate Prepared by Chemical Precipitation," *Inorganic Chemistry*, 1996, 35, pp. 4191-4197 (Sept. 1995).	
	CB	Mazzocchia, C., et al., "On the NiO MoO3 mixed oxide correlation between preparative procedures thermal activation and catalytic properties," *Solid State Ionics*, 63-65 (1993) pp. 731-735.	
	CC	Astier, M.P., et al., "Nickel-molybdenum catalysts prepared by reduction of ammonium triammine tetranickel pentamolybdate," *Applied Catalysis*, 72 (1991) pp. 321-329.	
	CD	Olah, George A., Hydrocarbon Chemistry, 1995, p. 30	
	CE	Astier, M.P., et al., "Ammonium Triammine Tetranickel Pentamolybdate Preparation, Characterization and Crystal Structure," *Ann. Chem. Fr.*, 12, pp. 337-343 (1987).	
	CF	Astier, M.P., et al., "Solid State Chemistry," *C.R. Acad. Sc. Paris,*, 304, (II), No. 11, pp. 563-566 (1987).	
	CG	Mazzocchia, C., et al., "On the NiMoO4 oxidative dehydrogenation of propane to propene: some physical correlations with the catalytic activity," *Catalysis Letters* 10 (1991) pp. 181-192.	
	CH	Levin, Doron, et al., "*Chemie Douce* Synthesis of a Layered Ammonium Zinc Molybdate," *Chem. Mater.* 1996, 8, pp. 836-843.	
↓	CI	M. Daage, et al., "Structure-Function Relations in Molybdenum Sulfide Catalysts: The "Rim-Edge" Model", *Journal of Catalysis*, 149, 414-427 (1994).	
	CJ		
	CK		
	CL		
	CM		
	CN		

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